

United States Patent**McWilliams**[15] **3,651,963**[45] **Mar. 28, 1972****[54] APPARATUS FOR LOADING BAGGED MAIL FROM A LOADING DOCK INTO A HIGHWAY VEHICLE****[72] Inventor: Joseph E. McWilliams, 1345 Canterbury Lane, Glenview, Ill. 60025****[22] Filed: Sept. 15, 1970****[21] Appl. No.: 72,428****[52] U.S. Cl. 214/6 G, 214/41, 198/101****[51] Int. Cl. B65g 67/08, B65g 57/112****[58] Field of Search. 214/41, 6 P, 6 DK, 6 G; 198/101, 126****[56] References Cited****UNITED STATES PATENTS**

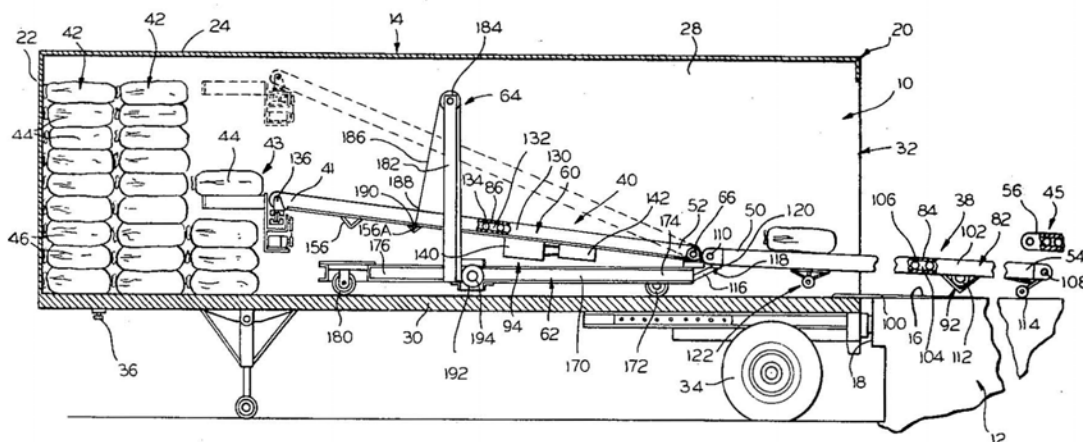
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Primary Examiner—Gerald M. Forlenza**Assistant Examiner—Robert J. Spar****Attorney—Mann, Brown, McWilliams & Bradway****[57]****ABSTRACT**

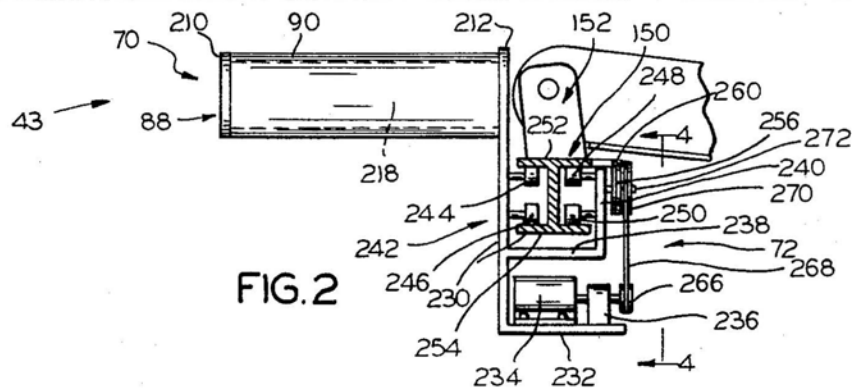
The invention relates to the loading of mail bags from a loading dock into an end loading highway vehicle to fully load the vehicle with compactly formed tiers, in which a pair of tandem connected run back conveyors are mounted on the loading dock for running under existing mail bag handling conveyors, that are proportioned lengthwise, and are mounted to be moved into the vehicle for loading purposes, to extend between the existing conveyor and the desired unloading point of the bags within the vehicle. The bags are moved single file down the conveyors, with the leading conveyor end being tiltable upwardly about an axis between the conveyor ends and carrying a transversely movable reversibly driven load discharge conveyor apparatus, whereby the bags may be discharged to either side of the vehicle to form compact vertical mail bag stacks up to the full height of the vehicle.

7 Claims, 5 Drawing Figures**EXHIBIT Q**

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FIG. 1



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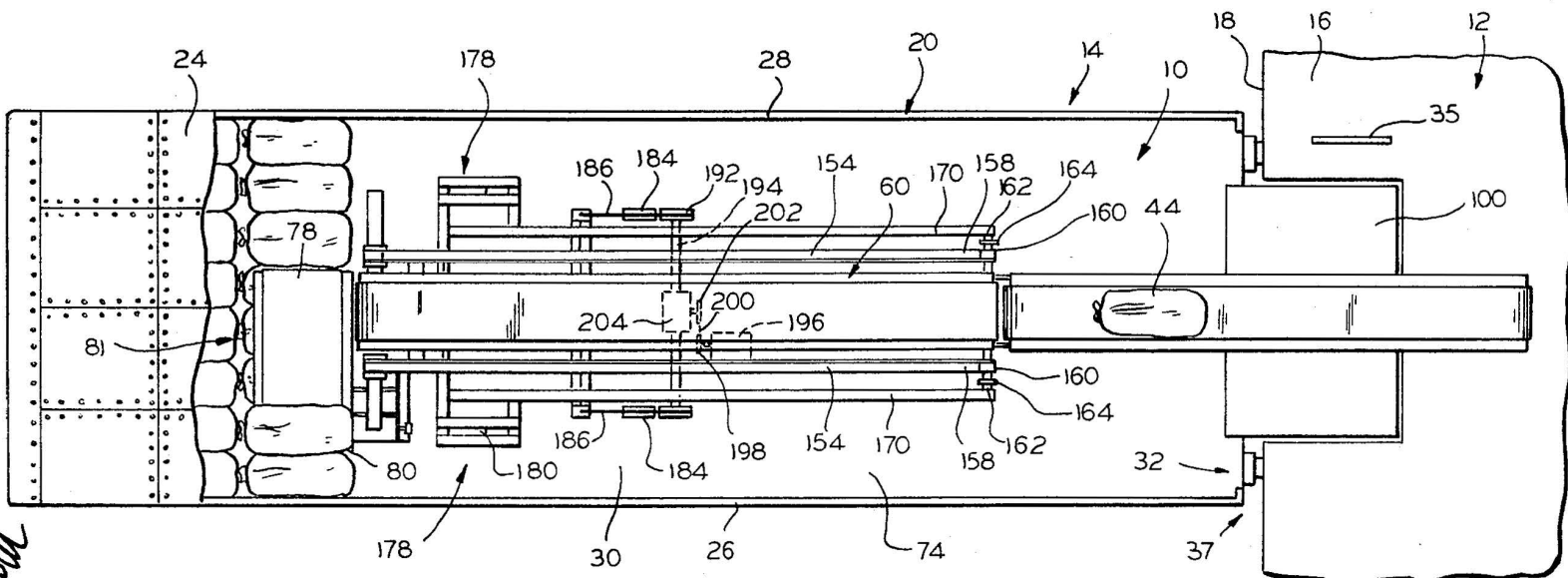


FIG. 3

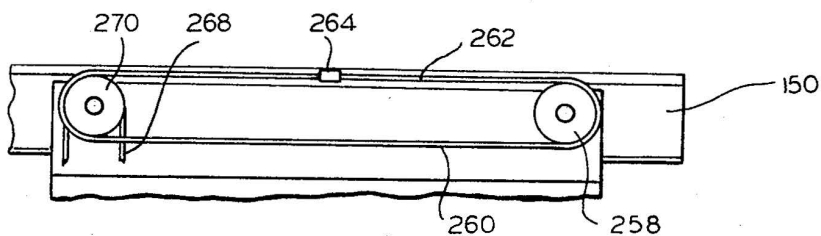


FIG. 4

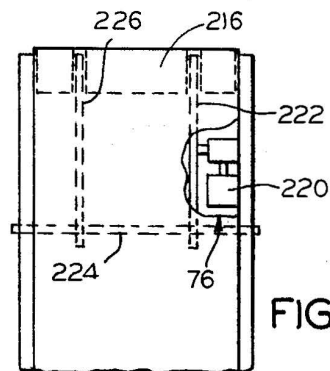


FIG. 5

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APPARATUS FOR LOADING BAGGED MAIL FROM A LOADING DOCK INTO A HIGHWAY VEHICLE

This invention relates to apparatus for loading mail bags into highway vehicles of the end loading type, and more specifically relates to improvements of the general type shown in my U.S. Pat. No. 3,507,411, granted Apr. 21, 1970.

Prior to the arrangements disclosed in my said patent, procedures for loading mail bags into highway vehicles have largely been manual in nature, with the workers involved dragging individual bags into the vehicle from a pile of bags on the adjacent loading dock, and then individually positioning and lifting the bag as necessary to form the vertical bag stacks within the vehicle that are conventional loading practice. At best, hand carts were some times employed to reduce some of the manual effort involved, but the handling required of each bag was still pretty much the same; in both cases, much repetition of bag oriented movements was required for each bag, which is wasteful of effort and inefficient in terms of time and cost of getting a job done. The result was that valuable equipment was unduly tied up to accommodate the slow loading procedures, and labor was in short supply as workers became increasingly reluctant to take on jobs involving such hard work.

Nevertheless, the Post Office Department and others concerned with the transport of loaded mail bags have continued to load something on the order of 50,000 trucks a day in the U.S.A. in this manner at a cost on the order of 18 Dollars a truck, which gives an indication of the magnitude of the problem.

In accordance with the inventions disclosed in my said patent, mail bags are oriented on the loading dock in the positions they are to have in the vehicle, and then are mechanically moved into the vehicle and are stacked while maintaining such orientation, and with the operator not having to enter the vehicle loading area, or the bags not having to be palletted in groups to reduce individual bag handling.

The present invention relates to improvements and modifications in the basic arrangement of my said patent, whereby bags are mechanically moved single file from the loading dock into the vehicle down the middle of the vehicle and are discharged into compact stacks to fill the vehicle, they being elevated and moved laterally of their path of movement through the vehicle as required to do this.

A principal object of this invention is to provide apparatus for stacking mail bags in end loading highway vehicles without requiring that the operator enter the vehicle or that the mail bags being palletted in groups to reduce individual handling.

Another principal object of this invention is to provide apparatus for loading bagged mail in transport vehicles in closely spaced relationship to the end that the available air space within the vehicle will be loaded to the maximum, and all manual motions ordinarily required to handle the bags within the vehicle are performed by mechanical means arranged to carry, elevate as necessary, and deposit the bags in the compact relationship necessary to maximize the payload by substantially filling the available cubic loading space of the vehicle.

Another principal object of the invention is to provide apparatus for loading of end opening vehicles such as motor trucks and trailers which permits a single operator to efficiently load the entire transport vehicle without stepping inside it.

Still other objects of the invention are to provide apparatus for loading bagged mail in transport vehicles that is adapted for full push button actuation and control, to provide methods and apparatus for handling bagged mail that permits substantially automatic handling of the mail bags as oriented for final positioning within the vehicle, and to provide mail bag handling apparatus that is economical of manufacture, convenient and reliable in use, and adapted for all conventional mail bag loading dock areas and vehicles or their equivalents.

In accordance with this invention, the mechanical bag handling apparatus involved comprises two tandem connected

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run back conveyors in which the rearwardly disposed conveyor is at a level for convenient manual lifting of bags onto same and/or positioning under existing bag handling conveyors to receive bags therefrom, and the forwardly disposed conveyor comprises a conveyor frame upwardly tiltable about an axis adjacent the level of the rearward conveyor and the connection of same to the forward conveyor, and including at its forward end a discharge conveyor reversibly drivable and mounted for bodily shifting movement laterally of the forward and rearward conveyors. The discharge conveyor has a length somewhat less than half the width of the vehicle being loaded, so that by appropriately positioning the discharge conveyor and operating same in either direction, bags can be positioned in any desired position laterally of the load receiving vehicle.

Yet other objects, uses, and advantages will be obvious or become apparent from a consideration of the following detailed description and the application drawings.

In the drawings:

FIG. 1 is a diagrammatic side elevational view of a semi-trailer in the process of being loaded in accordance with the present invention, with parts being broken away;

FIG. 2 is a fragmental elevational view on an enlarged scale illustrating in greater detail the reversibly driven bag discharge conveyor that is operated to dispose the mail bags in vertically disposed stacks;

FIG. 3 is a plan view of the arrangement shown in FIG. 1, with the highway vehicle being shown in section to expose its interior and the mail bag loading apparatus operating within the vehicle;

FIG. 4 is a view substantially along line 4—4 of FIG. 2; and

FIG. 5 is a fragmental plan view of the bag discharge conveyor shown in FIG. 2.

However, it is to be understood that the specific drawing illustrations provided are supplied primarily to comply with the requirements of the Patent Code, and that the invention is susceptible of other embodiments which are intended to be covered by the appended claims.

GENERAL DESCRIPTION

Reference numeral 10 of FIGS. 1 and 3 generally indicates one embodiment of the present invention, which is closely related to the basic approach of my said U.S. Pat. No. 3,507,411, for loading mail bags from a loading dock 12 into an end loading vehicle 14, which vehicle has been illustrated as being in the form of the familiar semi-trailer, although the invention is readily applicable to any end loading vehicle.

It is assumed that the mail bag handling installation involved includes the loading dock 12 (of a Post Office or the like), that is conveniently provided with a level load support surface 16 and the usual shoulder or end 18 adjacent to which the vehicle 14 is backed up for purposes of being loaded.

It is also assumed that the vehicle 14 is in the form of the usual body 20 defined by forward end wall 22, top wall 24, side walls 26 and 28, floor 30 and end opening 32 that is customarily closed by suitable doors or the like (not shown). The body 20, being of the semi-trailer type, rides on the usual rear wheels 34 and is provided with the usual kingpin 36 for connection to the fifth wheel of a conventional tractor truck (not shown).

In accordance with this invention, there is associated with the loading dock 12 at the position 37 where the vehicle body is to be stationed for loading purposes, a mail bag receiving conveyor 38 and a mail bag stacking conveyor 40 equipped at its discharge end 41 with a mail bag discharging and stacking device 43.

As indicated in FIG. 3, conveyors 38 and 40 are aligned longitudinally of the vehicle, and have a width to accommodate one mail bag oriented to extend longitudinally of the vehicle. Preferably, conveyors 38 and 40 operate in association with a conventional conveyor 45 of the type generally associated with Post Office facilities to convey mail bags to the loading dock 12. Conveyor 38, and the conveyor 40 when horizontally

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disposed, preferably are at an elevation above the loading dock surface 16 such that mail bags can readily be lifted onto the conveyor 38 from either side thereof, as well as being conveyed thereto from conveyor 45.

Conveyors 38 and 40 are secured together in tandem at their respective ends 50 and 52, with the conveyor 38 being of sufficient length so that its rear end 54 will be disposed under the projecting end 56 of conveyor 45 when the forward end 41 of the conveyor 40 is positioned to load the first stack 46 of mail bags 44 at the front end 22 of the body 14.

The conveyor 40 comprises a conveyor frame 60 pivotally mounted at its end 52 on wheel frame 62 which rides on the floor 30 of the body 14. Connected between the conveyor frame 60 and wheel frame 62 is a power operated elevating mechanism 64 which operates to tilt the frame 60 about its pivotal axis 66 to raise the frame 60 between a substantially horizontal position and the dashed line position of FIG. 1 to facilitate stacking of the bags 44.

The bag discharge device 43 comprises a conveyor apparatus 70 extending transversely of the path of movement defined by the conveyors 38 and 40 and mounted for movement longitudinally of its own path of movement, that is transversely of the conveyors 38 and 40. Such movement of the conveyor apparatus 70 is achieved by power operating mechanism 72. It will be noted from FIG. 3 that conveyor apparatus 70 has a length less than the width of the loading area 74 defined by the body 14, the intention being that the conveyor apparatus 70 be movable transversely of the vehicle body 14 so that when a mail bag 44 is deposited on the conveyor apparatus 70, the conveyor apparatus 70 may be driven by its own drive mechanism 76 (see FIG. 5) to discharge the bags from a selected end 78 or 80 of the conveyor apparatus 70. Conveyor 40 and its bag discharge device 40 provide a bag handling conveyor apparatus 81 of generally T shaped configuration.

Conveyor apparatus 38 comprises frame 82 suitably supporting and training conveyor belt 84, while frame 60 of conveyor 40 suitably supports and trains conveyor belt 86; conveyor apparatus 70 comprises conveyor frame 88 suitably supporting and training conveyor belt 90. Conveyor belt 84 is driven by a suitable drive apparatus 92 while conveyor belt 86 is driven by suitable drive apparatus 94 and conveyor belt 90 is driven by the drive apparatus 76.

Preferably the loading dock is arranged in such a manner that conveyors 38 and 40 when not in use may be run back to the right under conveyor 45, with the conveyor 40 disposed in its inoperative horizontal position and positioned under conveyor 45, so as to be in an out of the way position until needed. Conveyor 45 as illustrated is intended to represent conveyors of the conventional type utilized by the Post Office Department and other mail handling facilities, and is assumed to have a width comparable to conveyors 38 and 40 for conveying bags 44 when the bags extend longitudinally of conveyor 45.

When the vehicle 14 is positioned in the manner indicated in FIGS. 1 and 2 for being loaded with mail bags, the conveyor 38 and 40 are run out to the left from under the conveyor 45 and moved within the vehicle body 20. The conveyors 38 and 40, 45 and 70 are selectively put into operation by the operator operating suitable controls built into the control panel 35, it being a basic thesis of this invention that conveyors 38, 40 and 70 be arranged so that these pieces of apparatus are operated without anyone having to go into the vehicle 14 and for this purpose, the controls preferably are of the push button type applied to control panel 35 or its equivalent, and they may be of any suitable electric and/or electronic type that will serve the purpose.

Assuming conveyors 38, 40 and 45 are operating, as the individual bags are deposited on the conveyor 38 from the conveyor 45 (or are lifted onto the conveyor 38 from the side thereof and disposed to extend longitudinally of the conveyor 38 if no conveyor 45 exists or it is not in use), the bags are conveyed single file into the vehicle by the conveyor 38 and thence onto the conveyor 40, which moves them onto con-

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veyor apparatus 70. The operator on observing that a bag 44 is deposited on conveyor apparatus 70 actuates power operated mechanism 64 to dispose conveyor 40 at an elevation such that the bag 44 will not have a drop exceeding 24 inches and be deposited into a stack 46. When loading of the body 14 is first commenced, the apparatus 10 is positioned so that the conveyor 70 is adjacent the front wall 22 of the body 20 and conveyor 40 has its end positioned at its lowest operating level relative to the body floor 30. Power operating mechanism 72 is then operated to move the conveyor apparatus 70 to either one side or the other of conveyor 40, for instance the side shown in FIG. 3, and then drive 76 is actuated to operate conveyor 90 to deposit the bag 46 on the floor 30 adjacent front end wall 22 and side wall 26.

The next bag 44 is handled in a similar manner but deposited next to the first bag, conveyor 70 being positioned laterally of the conveyor 40 as required for this purpose. Subsequent bags are handled in like manner until the limit of movement of the conveyor apparatus 70 upwardly of FIG. 3 (laterally of the vehicle) is reached, whereupon for succeeding bags apparatus 70 is moved appropriately, by activating mechanism 72, for discharging succeeding bags from its end 78 to complete the first bag tier 46.

The first tier of the first stack 42 completed, the operation is repeated with the conveyor 40 elevated to provide the next tier 46 on top of the first tier 46 in the first stack 42, and so forth, until the first stack 42 is completed, whereupon the apparatus 10 is moved rearwardly of the vehicle 14 to form the next stack 42 in like manner. Similarly, stacking of the bags is completed until stacks are formed throughout the length of the vehicle 14, after which the vehicle open end is secured in the usual manner and driven off to be replaced by a similar vehicle that is located in like manner.

The handling of the bags 44 in moving them from the conveyor 45 or loading dock 12 is thus carried out after having made a single orientation of the bag as to the position it is to take longitudinally of the vehicle, and without having to drop the bag over the 24 inch limitation provided for by Post Office Regulations.

From the description so far, there are several important features to be observed. For one thing, the bags are properly oriented longitudinally of the vehicle 14 for application to their respective tiers 46 by their application to the conveyor 38 (whether from conveyor 45 or by manual application from a pile formed on the loading dock), and this orientation is maintained throughout further handling of the bags that moves them into the stacked relation indicated in the vehicle 14. Furthermore, the lifting and positioning of the bags 44 onto the conveyor, where the bags are not supplied by conveyor 45, is the only manual labor involved and the worker is thus concerned with only an easy lifting and positioning action at a convenient working height above the dock surface 16, with such action needing only to be performed once per bag.

It is also to be noted that the loading of the vehicle 14 is done without anyone having to enter the vehicle, and palletizing of the individual bags and/or tiers of bags is unnecessary.

SPECIFIC DESCRIPTION

The loading dock 12 that is illustrated is intended to be representative of conventional loading docks now commonly associated with Post Office installations and the like. Suitable bridge plate 100 is employed to facilitate the running on and off of the conveyors 38 and 40 into and from vehicle 14.

The vehicle 14 may be of any standard type, that illustrated intending to represent a typical vehicle now in use, though it is to be understood that the invention is equally applicable to other vehicles that are not of the semi-trailer type.

Conveyor frame 82 of conveyor 38 generally comprises a pair of side plates 102 and 104 suitably joined together and journaling rollers 106 which support conveyor belt 84. Conveyor belt 84 at its ends is turned over suitable conventional end rollers (not shown) that rotate about axes 108 and 110.

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Conveyor belt 84 is driven in any suitable manner, as by drive apparatus 92 which is only diagrammatically illustrated, but includes a suitable motor 112 driving belt 84 through a suitable reducer, sprockets or pulley and connecting chain drive or belt or the like (not shown). Frame 82 at its end 52 rides on one or more suitable supporting wheels 114 and at its forward end 50 rests on a suitable support structure 116 carried by wheeled frame 62 of conveyor 40. Support structure 116 carries a rest plate 120 which is preferably formed to receive a pair of locating pins 118 suitably fixed to and disposed in spaced apart relation transversely of the frame 82 so that frame 82 remains aligned with conveyor 40 when conveyors 38 and 40 are moved to the right of FIG. 1 and thus outwardly of the vehicle 14.

Frame 82 includes a suitable roller structure 122 adjacent its end 50 for supporting that end of the frame 82 when it is disconnected from wheel frame 62.

Conveyor frame 60 of conveyor 40 comprises side frame members 130 and 132 between which are journaled suitable rollers 134 that support the conveyor belt 86, the latter being trained over suitable end rollers journaled at the ends of the frame 60 for rotation about the axes 66 and 136, respectively. Frame members 130 and 132 are suitably joined together to form a unitary frame structure which supports power drive 94 which may be any suitable form of standard center drive for conveyors involving the usual bend and tensioning pulleys shown in box structure 140 and driven by a suitable motor and reducer drive mechanism (not shown) housed in suitable housing 142.

As indicated in FIG. 3, the conveyor frame 60 includes an I-beam structure 150 fixed to side frames 130 and 132 by a suitable bracket structure 152 on either side of frame 60, and side beams 154 extending along either side of the side frame members 130 and 132, with these parts being joined together by suitable underbrace beams 156. The ends 158 of the beams 154 are suitably pivotally connected to frame 62 for pivotal movement about axis 66, as by each being provided with a bearing structure 160 that respectively receive stub shafts 162 suitably mounted on the wheeled frame 62 by respective bearing structures 164.

The wheeled frame 62 comprises suitable longitudinally extending frame members 170 fixed together in any suitable manner and suitably mounting casters 172 on either side thereof at the rear end 174 of the frame 62, and having affixed to the forward end 176 of the frame 62 a wheel mounting structure 178 on either side thereof (see FIG. 3), each suitably mounting a suitable supporting wheel 180.

The wheeled frame structure 62 intermediate its ends 174 and 176 includes a pair of upright beams 182 disposed on either side of the conveyor frame 60 and each journaling a pulley 184. Pulleys 184 each have trained over same the respective support cables 186 each having one of its ends 188 anchored to cross member 156A of frame 60, as at 190, and the other of its ends operatively connected to the respective reels 192 keyed to shaft 194 suitably journaled on the frame 62 and driven by suitable motor 196 through interconnecting sprockets 198, driven chain 200, sprocket 202, and reducer 204 (see FIG. 3). Thus, actuation of motor 196, which preferably is of the reversibly operable type, effects raising and lowering of the end 41 of conveyor frame 60 about axis 66. It will be observed that axis 66 lies in substantial alignment with the level of conveyors 38 and 40 when both are more or less horizontally disposed, and axis 66 is intermediate the ends 54 and 41 of the respective conveyors 38 and 40.

The conveyor frame 88 of conveyor apparatus 70 comprises side frame members 210 and 212 suitably joined together and journaling rollers (not shown) that support conveyor belt 90, as well as end rollers 216 and 218 over which the ends of the belt 90 are trained. As indicated in FIG. 5, the drive 76 for conveyor 90 comprises suitable motor 220 acting through suitable reducer 220 to actuate drive chain 222 that is suitably coupled to end roller 216 and intermediate rotatable shaft 224. A second drive chain 226 likewise couples the end roller

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216 and shaft 224 to equalize the application of the drive to the roller 216.

Side frame member 212 in the form shown includes a downward extension 230 provided with a lower supporting flange 232 on which drive motor 234 and reducer 236 of drive mechanism 72 are supported. Extension 230 also has fixed thereto intermediate flange 238 provided with an upwardly extending end portion 240. Flange 238 and its end portion 240 extend substantially the length of the conveyor 70 and have journaled thereon spaced sets 242 of supporting rollers 244, 246, 248 and 250 which operatively engage the end flanges 252 and 254 of beam 150 in the manner indicated in FIG. 2 to support the conveyor apparatus 70 in the I-beam structure 150 for movement longitudinally of the latter. Roller sets 242, of course, will be in sufficient number and are positioned laterally of conveyor 40 to handle the loads involved (from an engineering standpoint).

Also journaled on the upwardly extending portion 240 of flange 238 are a pair of pulleys 256 and 258 disposed in spaced apart relation longitudinally of flange 238.

Trained over the pulleys 256 and 258 is a cable 260 that has its upper run 262 (see FIG. 4) anchored to I-beam 150 by suitable clamp device 264 that is in turn suitably fixed to I-beam 150.

In the arrangement of drive 72 that is shown in the drawings, pulley 256 is actuated by motor 234 through reducer 236 driving suitable pulley 266, pulley belt 268, and pulley 270 that is suitably coupled to pulley 256, as by being journaled on its mounting shaft 272.

It will thus be seen that the operator at control panel 35 can actuate drive 72 to rotate pulley 256 as required to move conveyor apparatus 70 in either direction laterally of the conveyor 40, motor 234 being of the reversible drivable type for this purpose. Likewise the operator from control panel 35 can operate drive 76, which likewise is preferably reversible drivable so that conveyor belt 90 can be driven in either direction. Thus, the "head" of the T shaped conveyor apparatus 81 is adjustable laterally of its body.

The operation of the various pieces of apparatus involved in this invention, as already indicated, are preferably controlled from suitable control panel 35 or the like, located outside of the vehicle 14, through a suitable wiring arrangement, and ordinarily only a single operator will be needed to both load the bags on the conveyor 38 and operate the conveyor 40 to deposit the bags in the vehicle 14. The machine involved can readily be controlled to avoid dropping the bags further than the 24 inch limitation prescribed by the Post Office Department.

The bag stacking arrangement of this invention will load trucks and trailers in a fraction of the time now required, and at less than half the cost, while at the same time greatly reducing the effort required by workers handling the bags. This not only greatly reduces the tie up time for each truck, but also significantly reduces the over-all cost of mail bag handling.

In a specific embodiment of the invention, the conveyor has a length of 40 inches for use in vehicles 14 of a standard type having approximately a 96 inch floor width (between walls 26 and 28).

Conveyors 38 and 40 as combined provide an elongate run back conveyor apparatus 10 having its forward portion adjustable T-shaped in configuration and mounted for tilting movement about axis 66 that is intermediate its ends and at the manual convenient loading elevation of conveyor 38.

The foregoing description and the drawings are given merely to explain and illustrate the invention and the invention is not to be limited thereto, except insofar as the appended claims are so limited, since those skilled in the art who have the disclosure before them will be able to make modifications and variations therein without departing from the scope of the invention.

I claim:

1. In bulk mail handling apparatus for loading elongated mail bags from a loading dock into the load receiving area of

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an end loading transport vehicle backed into load receiving position adjacent the dock to dispose its end opening to receive the bags, without workers on the dock handling the bags having to enter the vehicle, and without requiring that pallets remain with the bags after they are loaded into the vehicle, said apparatus comprising:

a conveyor movably mounted on the loading dock adjacent the load receiving position of the vehicle and having a width transversely thereof approximately the width of the mail bags, said conveyor being positioned to be aligned with the vehicle and its end opening in the load receiving position of the vehicle and mounted for movement into and out of the vehicle, said conveyor presenting an upwardly facing load transporting surface at an elevation for convenient manual lifting of the bags from the dock onto the conveyor surface and defining a path of movement for the mail bags that extends longitudinally of said conveyor, with said conveyor having its forward end extending toward and movably supported on the load receiving position of the vehicle and mounted for upward tilting movement about an axis intermediate the ends of the conveyor and adjacent the level of said conveyor surface, means on said conveyor for swinging said conveyor forward end about said axis to raise and lower said conveyor forward end relative to the vehicle load receiving area, said conveyor at its forward end carrying a mail bag discharge device extending transversely thereof, said discharge device being adjustably mounted for selective movement transversely to either side of said path of movement and including means for selectively discharging mail bags from either end of same, whereby mail bags may be loaded onto said conveyor surface with the bags thereof oriented to extend longitudinally of the vehicle and for movement by said conveyor in single file form to said discharge device, and said discharge device may be selectively positioned and operated to transversely shift and then discharge said bags one by one in a stack forming position in said vehicle area while maintaining said orientation.

2. In bulk mail handling apparatus for loading elongated mail bags from a loading dock into the load receiving area of an end loading transport vehicle backed into load receiving position adjacent the dock to dispose its end opening to receive the bags, without workers on the dock handling the bags having to enter the vehicle, and without requiring that pallets remain with the bags after they are loaded into the vehicle, said apparatus comprising:

a conveyor movably mounted on the loading dock adjacent the load receiving position of the vehicle, said conveyor being positioned to be aligned with the vehicle and its end opening in the load receiving position of the vehicle and mounted for longitudinal movement into and out of the vehicle, said conveyor presenting an upwardly facing load transporting surface at an elevation for convenient manual lifting of the bags from the dock onto the conveyor surface and defining a path of movement for the mail bags that extends longitudinally of said conveyor, said surface being proportioned transversely of the conveyor to accommodate the bags loaded thereon in single file form and oriented to extend longitudinally of the conveyor, with said conveyor having its forward end extending toward

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and movably supported on the load receiving position of the vehicle and mounted for upward tilting movement about an axis intermediate the ends of said conveyor and adjacent the level of said surface,

said conveyor at its forward end carrying a mail bag discharge device extending transversely thereof and mounted for movement transversely of said path of movement,

means for selectively positioning said discharge device to dispose either end thereof at predetermined positions transversely of said path of movement in the vehicle load receiving area,

said conveyor being proportioned lengthwise thereof to extend between a rearward mail bag receiving position on the loading dock and forward mail bag discharging positions within the vehicle,

means on said conveyor for tilting said conveyor forward end about said axis to adjust same to dispose said discharge device at a selected position of elevation in the vehicle load receiving area,

and means for shifting to and then discharging from a selected end of the discharge device mail bags received thereon from said conveyor surface,

whereby the mail bags may be mechanically transferred between the mail bag receiving position and the vehicle load receiving area while maintaining said orientation.

3. The apparatus set forth in claim 2 wherein:

said discharge device comprises:

a conveyor apparatus for moving mail bags received thereon from said conveyor transversely of said path, and means for driving said conveyor in either direction.

4. The apparatus set forth in claim 3 wherein:

said conveyor apparatus has a length that does not exceed one half the dimension of the vehicle area transversely of the vehicle.

5. The apparatus set forth in claim 3 wherein:

said conveyor comprises two conveyor units secured together in end to end tandem relation, with the conveyor unit at the discharge end of said conveyor comprising said forward end of said conveyor.

6. The apparatus set forth in claim 5 wherein:

said conveyor unit comprising said forward end of said conveyor comprises:

a wheeled frame,

a conveyor frame mounted on said wheeled frame for tilting movement about said axis,

said tilting means comprising:

a pair of uprights carried by said wheeled frame and disposed on either side of said conveyor frame and between said axis and said discharge device, cable means trained over the respective uprights and connected at like ends thereof to said conveyor frame, and power means operably connected to the other ends of said cable means for tilting said conveyor frame about said axis.

7. The apparatus set forth in claim 5 wherein:

said conveyor frame has a horizontal beam secured thereto at the said discharge end of said conveyor and extending transversely of said path,

said conveyor apparatus being carried by said beam and mounted thereon for said movement of said discharge device transversely of said path,

said selective positioning means comprising power operated means carried by said conveyor apparatus.

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